

THE NOMENCLATURE AND DISTRIBUTION OF SOME AUSTRALIAN AND NEW CALEDONIAN ANTS OF THE GENUS *MERANOPLUS* Fr. SMITH (HYMENOPTERA: FORMICIDAE: MYRMICINAE)

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Summary

Twenty six named, valid, worker-based Australian *Meranoplus* species are recognised, and one from New Caledonia. The queen-based *M. dichrous* Forel, *M. doddi* Santschi and *M. hospes* Forel are designated *species inquirendae*. New synonymies include: *M. puryi* Forel = *M. puryi curvispina* Forel and *M. armatus* Fr. Smith = *M. rugifrons* Emery. The subspecies *M. aureolus doddi* Santschi, *M. aureolus liniae* Santschi, *M. diversus duyfskeni* Forel, *M. diversus oxleyi* Forel, *M. diversus unicolor* Forel, *M. hirsutus minor* Forel, *M. hirsutus rugosus* Crawley, and *M. mars ajax* Forel are raised to species. The Melanesian *M. armatus* Fr. Smith is recorded for the first time from Australia.

Introduction

This paper reviews the status of all specific names available for Australian and New Caledonian ants of the genus *Meranoplus* Fr. Smith. Twenty six worker-based Australian species are recognised and three additional queen-based taxa are considered *species inquirendae*. One apparently endemic species is known from New Caledonia. The New Guinea-based *M. armatus* Fr. Smith is recorded for the first time from Australia. Eight previous subspecies are raised to species rank and two are shown to be junior synonyms. Details are given above in the summary. Type-compared voucher specimens of several species have been deposited in the Australian National Insect Collection (ANIC), where they are clearly labelled for future reference. Other species are represented in the collection by paralectotypes or syntypes, some of which were generously donated by the Museum d'Histoire Naturelle, Geneva, or the Naturhistorisches Museum, Basel, Switzerland. The support in this regard of Drs C. Besuchet and M. Brancucci is greatly appreciated.

It is thus now possible in Australia confidently to identify all named continental species of *Meranoplus* and to recognise that species are undescribed when that is the case. The last consideration is important because many undescribed species of the genus are known to be present in collections and many more doubtless await first collection.

Distributions are summarised below using 'short' 1 degree coordinates, as in Taylor (1987). Publication details for species are given in the references cited, or in Taylor & D. R. Brown (1985), or Taylor (1987). Unless otherwise noted all specimens discussed are in the ANIC, and all are workers. Specimens designated as lectotypes or paralectotypes have been appropriately labelled.

Depositories

Abbreviations for institutions, with the names of other cooperating curators, whose help is gratefully acknowledged, are: ANIC—Australian National Insect Collection, CSIRO, Canberra; BMNH—British Museum (Natural History), London (Barry Bolton); MHNG—Museum d'Histoire Naturelle, Geneva, Switzerland; MCSN—Museo Civico di Storia Naturale 'Giacomo Doria', Genoa, Italy (Dr V. Raineri); MVIC—Museum of Victoria, Melbourne (Mr K. Walker); NHMB—Naturhistorisches Museum, Basel, Switzerland; NHMV—Naturhistorisches Museum, Vienna, Austria (Dr M. Fischer); OXUM—University Museum, Oxford, U.K. (Dr C. O'Toole); NHRS—Swedish Museum of Natural History, Stockholm, (Dr P. Persson).

Synonymic list of Named Australian *Meranoplus* Species

ajax Forel, 1915 n. stat.
armatus Fr. Smith, 1862
 rugifrons Emery, 1897 n. syn.
aureolus Crawley, 1921
barretti Santschi, 1928
dimidiatus Fr. Smith, 1867
diversus Fr. Smith, 1867
duyfkeni Forel, 1915 n. stat.
excavatus Clark, 1938
fenestratus Fr. Smith, 1867
ferrugineus Crawley, 1922
froggatti Forel, 1913
hilli Crawley, 1922
hirsutus Mayr, 1876
linae Santschi, 1928 n. stat.
mars Forel, 1902
minimus Crawley, 1922
 minor Crawley, 1918 (homonym)
 crawleyi Viehmeyer, 1922
minor Forel, 1902 n. stat.
mjobergi Forel, 1915
oceanicus Fr. Smith, 1862
oxleyi Forel, 1915 n. stat.
pubescens (Fr. Smith), 1854
puryi Forel, 1902
 puryi curvispina Forel, 1910 n. syn.
rugosus Crawley, 1922, n. stat.
similis Viehmeyer, 1922
testudineus McAreavey, 1956
unicolor Forel, 1902 n. stat.

 Species Inquirendae
dichrous Forel, 1907
doddi Santschi, 1928 n. stat.
hospes Forel, 1910

Species Discussed in Brief

A number of species are discussed in detail below. In addition to them the following are recognised here as valid taxa. Relevant types and their sources are indicated: *M. barretti* Santschi [Elsternwick (37/145), Vic. (Victoria), lectotype (designated here) 3 paralectotypes, NHMB, paralectotype, ANIC (ex NHMB)]; *M. excavatus* Clark [Reevesby I (34/136), SA (South Australia), topotypical specimen, probably a syntype, ANIC, the sole pin labelled 'typus' in MVIC has lost both specimens from its card points, its labels are identical to those of the ANIC (?)syntype and the latter might now be the only existing original specimen]; *M. fenestratus* Fr. Smith [Champion Bay (= Geraldton, 24/118), WA (Western Australia), holotype, BMNH]; *M. froggatti* Forel [Victoria, lectotype (designated here), MHNG, paralectotype, ANIC (ex MHNG)]; *M. mjobergi* Forel [Noonkanbah (18/124), WA. syntype, ANIC (ex MHNG)]; *M. pubescens* Fr. Smith [Adelaide (34/138), SA, holotype, BMNH]; *M. similis* Viehmeyer [Killalpaninna (28/138), SA, syntype, ANIC]; *M. testudineus* McAreavey [Port George

The Fourth (15/124), WA, syntype, ANIC]. Type-compared voucher specimens have been established in the ANIC for *M. fenestratus* and *M. pubescens*.

M. hospes Forel [Howlong (35/146), NSW (New South Wales), MHNG] was described from the queen (not the worker as cited in Taylor and D. R. Brown, 1985). I consider it to be unrecognisable and a *species inquirenda* until workers appropriately associated with a comparable queen can be consulted. The holotype was collected in unspecified circumstances with a male and several workers. The latter were identified by Forel as *M. oceanicus*. Forel considered the queen not to be conspecific with the workers and described it as the new species *M. hospes*; the male was considered unidentifiable (Forel, 1910: 49; note that at one point the name *castaneus* was used in error by Forel for *oceanicus*). There are 3 workers from the Howlong series in the ANIC (donated by MHNG). I agree with Forel that they seem not to be conspecific with the *hospes* holotype, and have used them as vouchers for comparison with the holotype of *M. oceanicus* (see below).

M. dichrous Forel was described from a queen collected at Yalgoo (28/116), WA, by the Hamburg Museum Expedition of 1905. The holotype cannot be found in any major European ant collection. It was probably returned to Hamburg by Forel and destroyed there during World War II. This *species inquirenda* will presumably remain unrecognisable.

The New Caledonian *M. leveillei* Emery (4 syntypes, ANIC) is a valid species not known from Australia or elsewhere. Two unavailable infrasubspecific names in *Meranoplus* were discussed by Taylor (1986).

The *Meranoplus* species of W. C. Crawley

Types of the five Australian *Meranoplus* species-group names of W. C. Crawley (1921, 1922) have been identified among specimens in the Crawley collection (OXUM), the ANIC and the MVIC. All are considered to represent 'good species', including *M. rugosus*, which was first described as a subspecies of *M. hirsutus* Mayr (see below). Crawley's specimens were sent to him from the MVIC by John Clark. They are carelessly labelled, field data is often absent or written in pencil on scrap-paper tags, and some have no declared type status. Most, fortunately, bear small circular labels, each with a lot number presumably related to the consignment notes. These numbers correlate with the separate species and were cited by Crawley with the original descriptions. All type series clearly included several specimens, though their tallies were not given by Crawley.

Representatives of these species with locality, date and collector details matching the types are in various Australian collections. They usually lack type labels, but sometimes have the appropriate lot number written on their main data labels and often carry Clark determination labels showing the correct species name. The various pins of any species may have data labels either printed or handwritten by either Crawley or Clark and the printed type labels vary in font, colour, and wording (most read 'cotype', none have 'holotype'). These series presumably include specimens originally retained in Australia by Clark, along with others returned to him after description by Crawley. The latter are possibly types, the former not. I have designated a lectotype for each species (OXUM) and some of the remaining specimens are labelled as paralectotypes, but *only* (A) when they are from the Crawley collection at Oxford, regardless of whether they are labelled as types or not (i.e. with the assumption that, in either case, Crawley probably used them in his type series), or (B), in the case of specimens from Australian collections, only when they carry some indication of type status on their labels—only then can it be reasonably assumed that Crawley worked with them [although, in other instances (Taylor,

1988) Clark is known to have added type labels after the time of description to equivalent specimens of other species which had not been seen by Crawley]. Other specimens examined here from Australian collections carry my determination labels reading 'compared with lectotype, June 1988'; all were probably collected with those of the type series. All species are represented in the ANIC either by such vouchers or by paralectotypes. The details of label variation are not given here, since my actions will be clear to future workers. The synonymies under *M. minimus* listed in Taylor (1987) are objective, stemming from the junior homonymy of Crawley's original name for that species (*M. minor*); they need no confirmation.

The various specimens are distributed between the three collections as follows [L=lectotype, P=paralectotype(s), V=type compared voucher(s)]: *M. aureolus*: OXUM: L & P together on 1 pin; ANIC: 6 V (1 pin); MVIC: 1 P, 2 V (1 pin). *M. ferrugineus*: OXUM: L, 12 P (3 pins); ANIC: 3 P (1 pin); MVIC: 2 V (1 pin). *M. hilli*: OXUM: L, 3 P (1 pin); ANIC: 2 V (1 pin); MVIC: 2 V (1 pin). *M. minimus*: OXUM: L, 2 P (1 pin); ANIC: 7 V (1 pin). *M. rugosus*: OXUM: L, 11 P (3 pins); ANIC: 2 P (1 pin); MVIC: 2 V (1 pin). Some of the paralectotypes and vouchers are damaged.

The species group of *Meranoplus diversus* Fr. Smith

The large species of the *M. diversus* group occur widely in arid and semi-arid areas of Australia. Perusal of relevant specimens in the ANIC and other collections demonstrates convincingly that several (mostly undescribed) species are involved; that some distinctive forms are apparently restricted in distributional range, while others are widespread; that there are either a number of sibling species, or some at least are substantially variable; and that the group is largely taxonomically intractable in the light of available specimens, even though existing holdings are substantial. There is an unusual dearth of sympatrically associated specimens of clearly separate but similar species, and collectors should be alert for such associations. The described taxa and their types examined here include *M. diversus* Smith (see below); *M. diversus duyfkeni* Forel and *M. diversus oxleyi* Forel [both Kimberley District (ca 17/127), WA (both with syntypes in ANIC, donated by MHNG)], and *M. diversus unicolor* Forel [King Sound (16/123), WA (syntypes in ANIC (ex MHNG) and MVIC)]. Also included in this group are *M. mars* Forel [Charters Towers (20/146), Qld (Queensland)], and its erstwhile subspecies *M. ajax* Forel (Kimberley District), which are discussed below. Note that all of these taxa except *M. mars* were described from WA, most from the north of the state. After due study, and consideration of the difficulties in segregating species of the *diversus* group, I conclude that each of the above names signifies a separate biological species and that the subspecies of *M. diversus* should be raised to species, constituting *M. duyfkeni* Forel, n. stat., *M. oxleyi* Forel, n. stat., and *M. unicolor* Forel, n. stat. Although all of these species except *M. diversus* (see below) are represented by syntypes in the ANIC, which will facilitate future fixing of the names on perceived conspecific specimens, some relevant series are still best identified using the aggregate name *M. (diversus)*, following Article 6 of *The International Code of Zoological Nomenclature*, 3rd edn, 1985.

Discussion of Individual Species

Meranoplus ajax Forel, 1915 (*Meranoplus mars ajax*), n. stat.

The holotype of *M. mars ajax* [Kimberley District (ca 17/127), WA, NHRS] differs from a syntype of *M. mars* [Charters Towers (20/146), Qld, ANIC (ex MHNG)] as specified in its original description. In addition, the lateral tabs of the pronotal armament

are relatively almost twice as broad across their bases in *ajax* than in *mars* and the posterior border of the promesonotal dorsum above the strongly sloping propodeum is a low, ragged transverse flange, where *mars* has a pair of moderately strong teeth. The petiole and postpetiole are somewhat more bulky and transverse in *mars* than in *ajax*. I consider these to be separate species. Type-compared vouchers of *M. ajax* are from near Kalumburu Mission (14/126), WA (W. Leutert, Aug. 1967). Most of them have slightly stronger gastral sculpturing than in the type, but otherwise match it closely. Additional material of *M. mars* is from 17 mi. NW of Hamilton Downs (23/133), NT (Northern Territory) (R. McInnes & J. Dowse, 9 IV 1963).

Meranoplus armatus Fr. Smith, 1862

= *Meranoplus spinosus rugifrons* Emery, 1897, n. syn.

This species, which is recorded here for the first time from Australia, has been placed frequently in collections under the name *M. spinosus* Fr. Smith, 1859. This seems reasonable, because relevant specimens may be considered to meet the *M. spinosus* diagnosis, they are not uncommon in samples of New Guinean ants, and the *spinosus* type locality was given by Smith as 'Aru' [= Kepulauan Aru (06/134), Moluccas, E. Indonesia], an island close to New Guinea. However, the matter is complicated. The *spinosus* description certainly could apply here, but shortly after he described *M. spinosus* Smith published an illustration purportedly of its type (1862, pl. XII, fig. 8), and the ant depicted there certainly could not be the species now under discussion. It was later assumed by Emery (1897) that a mistake had been made in the selection of Smith's illustration, and that the species depicted was not the one previously described as *M. spinosus*. Emery considered the illustrated specimen to be a *Procryptocerus*, and thus of Neotropical provenance. He foreshadowed in 1897 the synonymy given in his 1922 *Genera Insectorum* checklist (in which he listed *M. armatus* as the junior synonym of *M. spinosus*), and erected the subspecies *M. spinosus rugifrons*. The matter would rest if the type of *M. spinosus* was an appropriate specimen of *Meranoplus*. However, this was shown long afterwards not to be the case, by Donisthorpe (1932: 456), who reported that the *spinosus* holotype was indeed a dealated female *Procryptocerus*, labelled 'Aroo', and proposed for it the combination *Procryptocerus spinosus* (a citation which seems, incidentally, to have been overlooked by authors studying Neotropical ants). Donisthorpe (1941) later used the combination *Meranoplus rugifrons* for the New Guinea species and again acknowledged that *M. spinosus* was a *Procryptocerus*. Barry Bolton (BMNH) has recently examined the purported type. He has confirmed (pers. comm.) the truth of Donisthorpe's observation and suggests that the Aroo specimen might all along have been the true holotype of *spinosus*, an assumption clearly accepted by Donisthorpe. Bolton and I have concluded that this is the most sensible (certainly the most parsimonious and least troublesome) possible conclusion and thus reject *spinosus* as a name available for the Melanesian *Meranoplus* species under discussion here. The only remaining possible complications are that Smith's 1862 *spinosus* illustration appears to feature a worker, not a female, so that it might not have involved the specimen now accepted as the *spinosus* holotype, and that the original *spinosus* description does not seem to apply particularly well to the presumed holotype.

For nomenclatural purposes my concept of *M. armatus* [which was described from the worker, Type locality uncertain, either Sumatra or Celebes (= Sulawesi), Indonesia] is based on its original description and the figure of its type published simultaneously by Smith (1862, plate XII, fig. 7). Despite much effort by Barry Bolton (BMNH) and Dr C. O'Toole (OXUM) the type(s) have not been located in the appropriate collections, and are presumed lost.

For purposes of the above synonymy my concept of *M. spinosus rugifrons* is based on 4 workers mounted on a single pin and sent from the Emery Collection (MCSN) in response to my request for type material on loan. These are not labelled as types, but bear a small handwritten tag reading 'N. Guinea Biró' and another with '*M. spinosus* subsp *rugifrons* Emery'. The type locality of *rugifrons* was given as 'New Guinea'. Emery (1897: 569) referred to specimens collected by Biró, but cited these as representing his concept of the 'forma typica' of *M. spinosus* (i.e. the nominotypical subspecies). For these reasons it seems unlikely that the specimens to hand really are *rugifrons* types. Nonetheless they are from Emery's collection and do represent his concept of the species referred to here as *M. armatus*. Emery's paper clearly shows that he considered *armatus* and *rugifrons* to be conspecific under the name *M. spinosus* (the first as a synonym, the second as a subspecies) and there can be no doubt that his '*spinosus*' referred to the species now under discussion. In the final analysis, all relevant specimens from New Guinea seem to be conspecific and there is no apparent justification for the recognition of subspecies among them. The junior synonymy of *rugifrons* under *M. armatus* follows logically.

M. armatus is easily distinguished by the very elongate spines which arm its promesonotal shield, which is otherwise not greatly extended. The pronotal humeri each bear a slender, anterolaterally directed spine. These are usually about as long as the width of the pronotum separating their bases, and each has a short, laterally directed denticle near its base. The posterolateral corners of the shield each carry a pair of similarly elongate and slender spines, which are approximated at their bases to form a 'V'-shaped structure on each side. The propodeal spines beneath are much shorter, and very slenderly acute. The spines are sometimes reduced, though I have not seen specimens with the most reduced conditions illustrated by Emery (1897, plate 1, figs 13-15).

The ANIC has Papua New Guinean material of *M. armatus* from at or near the following localities: Tage, Lake Kutubu (06/143); E of Gain, Saruwaged Range (06/146); Bulolo (07/146); Wau (07/146); Kokoda (08/147); Popondetta (08/148); Brown River (09/147); Managalase Area (09/148); Safia (09/148); Wanigela (09/149), and from Isiveni and Sangara in the Northern Province. All samples are of stray workers and all were probably collected at or in rainforest.

Australian mainland records from ANIC and Queensland Museum holdings are all from the Iron Range area (12/143) of far north Qld, as follows: Iron Range, 12°42'S 143°18'E, dealate queen, rainforest (R. W. Taylor & J. Feehan, 9-15 VI 1971); Lamond Hill, rainforest strays (Davies & Raven, VI 1976); West Claudie River, workers, pyrethrum knockdown sample, rainforest (G. Monteith & D. Cook, 3-10 Dec. 1985). The species is also represented from Saibai Island (09/142), just south of the New Guinea coast in Torres Strait: near Saibai Village (H. Heatwole & E. Cameron, 10-21 VI 1975).

Meranoplus dimidiatus Fr. Smith, 1867

Examination of the unique holotype [Champion Bay (= Geraldton, 24/118), WA, BMNH] shows *M. dimidiatus* to be one of the most distinctive of all Australian *Meranoplus* species. The type has the following salient features:

Maximum head width (HW) (across the eyes) 1.18 mm. Clypeus slightly longer than wide, projecting by about 2/3 its length beyond the apices of the frontal lobes, in plan view almost rectangular, with the lateral margins converging only slightly forwards; the distal 2/3 of the sclerite downcurved, posterior border only slightly rounded, apical border transverse, straight, with 6 minute projecting denticles, several of which extend

from striae on the face of the clypeus; the striae complete on each side, but largely effaced from a broad median strip.

Promesonotal shield relatively simple, almost rectangular in dorsal view; at the midline about as long as wide; armed with small, acute, pointed humeral denticles, and slightly larger, acute but apically blunt, posteriorly-directed posterolateral lobes; lateral borders parallel, relatively only slightly complex in outline, except for a broad, low, approximately right-angled projection on each side, behind the slightly indented mid-point. Posterior border between the posterolateral lobes relatively long, completely uninterrupted by teeth or denticles, forming a straight transverse flange which slightly overhangs the propodeal suture. The shield evenly and moderately coarsely reticulate-rugose, lacking any trace of transparent or translucent marginal sections or enclosed fenestra. Colour dark medium-brown, the waist nodes, gaster and legs lighter reddish-brown.

Seven workers (ANIC) from Barrow Island, WA (20/115, on the Pilbara coast, about 900 km N of Geraldton) (H. Heatwole, Feb. 1977) match the holotype closely and have been labelled as type-compared vouchers. In these the sides of the clypeus are a little more distally convergent than in the holotype. They have HW 1.07-1.14 mm.

A series of workers (ANIC) from Kununurra (15/128), WA (strays on sandy wooded flats, B. B. Lowery, 8 8 86) is identified as *M. dimidiatus*. In these the clypeal structure is like that of the Barrow I material and, compared to the holotype and Barrow I specimens, the promesonotal shield is relatively a little longer, with its lateral borders less sinuous and posterolateral lobes reduced to small, pointed, almost right-angular to slightly acute teeth, which are subequal to or somewhat smaller than the humeral teeth; the posterior border of the shield is very slightly and broadly concave between the apices of the posterolateral denticles. These specimens are consistently smaller than the others discussed here (HW 0.96-1.01 mm). Other specimens similar to the Kununurra series are from Katherine (14/132), NT (ground foragers, savanna woodland, B. B. Lowery, 18 7 81). Kununurra is in the north-eastern Kimberley region, about 2,000 km NE of Geraldton, and Katherine is in the central 'top-end' of the NT, about 400 km ENE of Kununurra.

Meranoplus diversus Fr. Smith, 1867

I consider 6 worker vouchers from 1 m (mile) S of Agnew (28/120), WA (R. McInnes & J. Dowse, 12 X 1960) to be conspecific with the *M. diversus* holotype [Champion Bay (= Geraldton 28/114), WA, BMNH]. They were taken about 700 km E of the type locality, and resemble the type closely in size, proportions, sculptural details, pilosity and the configuration of the clypeus and the extensions of the frontal lobes which enclose it laterally. Features of the clypeo-frontal area provide good 'key' characters in the *diversus* group. Differences in gastral sculpturing seem also to be of taxonomic value. Several of the vouchers have traces of erratic longitudinal striation on the base of the first gastral tergite, which are lacking in others, including the type; in them the sclerite is uniformly and finely shagreened. The structure and armament of the promesonotal shield in the vouchers is similar to that of the holotype, except that the processes at the posterolateral corners of its mesonotal section are relatively narrow and digitate; they are acutely triangular in the type, but less digitate. The structure of the promesonotal shield is generally strongly species-characteristic in *Meranoplus*, but the variation evidenced by other, better represented, species of the *diversus* group (notably several from north Qld and NT), supports a conclusion that the differences noted here are infraspecific. In addition, the eyes are set relatively a little further

forward on the sides of the head of the holotype. Variation in the allometric expansion of the post-ocular cranium in other species implies however that this is likely also a matter of infraspecific variability.

Meranoplus doddi Santschi, 1928 (*Meranoplus aureolus doddi*) n. stat.

Four dealate syntype queens [Townsville (19/146), Qld, NHMB] are considered here not to be conspecific with available types of *M. aureolus* (see above) or *M. aureolus liniae* (see below), and I have been unable to match them with worker-associated queens. They seem unlikely to be females of any named worker-based species, but queens of most are unknown for comparison in any case. *M. doddi* is thus probably valid, but, except for the purposes of identifying further conspecific queens, it should be considered a *species inquirenda* until workers associated with queens matching the types are available for study. A lectotype and 4 paralectotypes are here designated, and a paralectotype has been donated to the ANIC by the NHMB. The types were erroneously reported to be workers by Taylor & D. R. Brown (1985).

Meranoplus liniae Santschi, 1928 (*Meranoplus aureolus liniae*) n. stat.

Comparison of 5 worker syntypes of *M. aureolus liniae* [Townsville (19/146), Qld, NHMB] with type material of *M. aureolus* (see above), shows that they represent similar but separate species. A lectotype and 4 paralectotypes are here designated, and a paralectotype has been donated to the ANIC by the NHMB. *M. liniae* is slightly larger than *M. aureolus*, more heavily sculptured, with less dense and shorter pilosity and with the gaster in dorsal view more deeply emarginate anteriorly, to embrace the base of the postpetiole.

Meranoplus minor Forel, 1902 (*Meranoplus hirsutus minor*) n. stat.

Meranoplus hirsutus Mayr, 1876 [Gayndah (25/151), Qld, lectotype (designated here) and 7 paralectotypes, NHMV] is a widespread species of Qld and northeastern NSW rainforests. It is known from Mt Windsor Tableland and Cape Tribulation (16/145), Qld, south to Mt Nullum, near Murwillumbah (28/153), NSW, and has been taken at many intervening localities (grid cells 16/145, 17/145, 20/148, 20/149, 21/148, 23/150, 24/150, 26/152, 27/153, 28/153).

M. hirsutus has characteristically large lateral extensions to the promesonotal shield (in dorsal view the mesosoma is wider than long). It is very hirsute and medium-dark brown in colour with a striking orange gaster. Specimens may fade with age. Nests are excavated in the soil, either without a covering object, or under stones or rotting logs etc, and well rotted wood on the ground is sometimes penetrated. Foraging is largely nocturnal on the ground and low vegetation. ANIC type-compared vouchers are from Lake Eacham National Park (17/145), Qld (R. W. Taylor, 1-7 X 1972).

M. minor [Thornleigh, Sydney (33/151), NSW, 3 syntype workers, ANIC (ex MHNG)] is a very different, smaller, uniformly yellowish, equally hirsute species, with less extremely developed mesosomal extensions. Its subspecific ranking under *M. hirsutus* is untenable. This species is known from Miala National Park (27/153), just north-west of Brisbane, south to Sydney (grid cells: 27/153, 30/151, 31/152, 32/150, 33/151). It has been taken nesting in soil under logs or stones in rainforest, and under stones in pasture in SE Qld, and in a moist gully in sclerophyll woodland near Singleton, NSW. Its northern range overlaps the southern part of that of *M. hirsutus* and the two species have been collected in sympatric association at Mt Coot-Tha (27/153), Brisbane (under rocks, medium sclerophyll woodland, B. B. Lowery, 20 12 56).

The NHMV type series of *M. hirsutus* comprises 5 separately pinned specimens of *M. hirsutus* (as restricted by my lectotype selection above), labelled 'Gayndah', and 3 of *M. minor*, labelled 'Sidney' (sic!). The latter were discussed originally by Mayr (1876), and he seemed then to have excluded them from the *hirsutus* type series. However, all specimens are labelled as *M. hirsutus*, and all have the word 'Type' printed on their labels. The above lectotype selection was therefore required.

M. hirsutus and *M. minor* are two of only four *Meranoplus* species known from Qld rainforests. The others are *M. armatus* Fr. Smith (see above) and two undescribed species, one from the Claudie River area (Iron Range, 12/143), and another from McDowall Range (16/145), north of Daintree.

M. oceanicus Fr. Smith, 1862

Three workers (ANIC ex MHNG) from the Howlong (35/146), NSW, series originally collected with the holotype queen of *M. hospes* (see above) have been labelled as vouchers of *M. oceanicus*, following comparison with its holotype [Moreton Bay (27/153), Qld, BMNH]. They agree closely in all salient features with the type, but differ from it as follows:

1. In full-face view the frontal carinae and the sides of the head below them, are almost parallel with the long axis of the head. In the *oceanicus* holotype these borders converge apically at angles of about 20° to the midline.
2. Dorsum of petiolar node, viewed from above, slightly less narrowed anteroposteriorly.
3. Postpetiolar dorsum in dorsal view a little shorter relative to its width.
4. Body hairs overall about 1/2 to 2/3 as long as those of the holotype.
5. Colour slightly lighter reddish-brown.

Moreton Bay is almost 1,200 km NW of Howlong, so the differences observed between these series can be readily explained as geographical variation.

Meranoplus puryi Forel, 1910

= *Meranoplus puryi curvispina* Forel, 1910, n. syn.

The ANIC has a syntype each of *M. puryi* [Yarra District (37/145), Vic.] and *M. puryi curvispina* [type locality 'New South Wales'] (both ex MHNG). They differ only slightly. I consider them to be conspecific, justifying the above synonymy.

Meranoplus rugosus Crawley, 1922 (*Meranoplus hirsutus rugosus*) n. stat.

As predictable on distributional grounds comparison of *M. hirsutus rugosus* types [Parkerville (31/116), WA, OXUM, ANIC], with vouchers of *M. hirsutus* (see above) shows that they are not conspecific, nor is *rugosus* apparently a junior synonym of any other species I have seen.

References

- Crawley, W. C. (1921). New and little-known species of ants from various localities. *Ann. Mag. nat. Hist.* (9) 7: 87-97.
- Crawley, W. C. (1922). New ants from Australia. *Ann. Mag. nat. Hist.* (9) 9: 427-448.
- Donisthorpe, H. (1932). On the identity of Smith's types of Formicidae (Hymenoptera) collected by Alfred Russell Wallace in the Malay Archipelago, with descriptions of two new species. *Ann. Mag. nat. Hist.* (10) 10: 441-476.
- Donisthorpe, H. (1941). Descriptions of new species of ants from New Guinea. *Ann. Mag. nat. Hist.* (11) 7: 129-144.
- Emery, C. (1897). Viaggio do Lamberto Loria nella Papuasias orientale 18. Formiche raccolte nelle Nuova Guinea. *Ann. Mus. civ. Stor. nat. Giacomo Doria* 38: 546-594.
- Emery, C. (1922). Hymenoptera Fam. Formicidae Subfam. Myrmicinae in Wystman, P. (ed.) *Genera Insect.* fasc. 174C 192 pp (207-397).

- Forel, A. (1910). Formicides australiens recus de MM. Froggatt et Rowland Turner. *Revue suisse Zool.* 18: 1-94.
- Mayr, G. L. (1896). Die Australischen formiciden. *J. Mus. Godeffroy* 5: 56-115.
- Smith Fr. (1859). Catalogue of the hymenopterous insects collected by Mr A. R. Wallace at the islands of Aru and Key. *J. Linn. Soc. Zool.* 3: 132-178.
- Smith Fr. (1862). A list of the genera and species belonging to the family Cryptoceridae, with descriptions of new species; also a list of the species of the genus *Echinopla*. *Trans. ent. Soc. Lond.* 11: 407-416.
- Taylor, R. W. (1986). The quadrinominal infrasubspecific names of Australian ants (Hymenoptera: Formicidae). *Gen. appl. Ent.* 18: 33-37.
- Taylor, R. W. (1987). A catalogue of the ants of Australia, New Caledonia, and New Zealand. *CSIRO Aust. Div. Entomol. Rep.*, 41, 1-92.
- Taylor, R. W. (1989). The nomenclature and distribution of some Australian ants of the genus *Polyrhachis* Fr. Smith. (Hymenoptera: Formicidae: Formicinae). *J. Aust. ent. Soc.* 28: 23-27.
- Taylor, R. W. and Brown, D. R. (1985). Hymenoptera: Formicoidea. In *Zoological Catalogue of Australia. Volume 2*. Australian Government Publishing Service, Canberra. 381 pp. (1-149, 306-348).